



**Response by Cindy Sage, Sage Associates
to URS Radiofrequency (RF) Rebuttal Report
dated March 26, 2013**

**Use of Wireless Devices in Educational Settings
Prepared for the Los Angeles Unified School District**

March 28, 2013

- 1) The URS Rebuttal does not address the basic request for calculations on which to evaluate compliance with the District's target RF level of 0.1 uW/cm². Instead, URS refers back to LAUSD calculations that have still not been provided. If URS reviewed and relied on calculations provided by LAUSD, please provide them to us. Please provide the users manual for the wireless tablet to be distributed, and the manufacturer and model number of the wireless device. No reasonable assurance of compliance is possible unless there is opportunity for review of these calculations.
- 2) URS is non-responsive to most questions submitted that address calculations for RF power density. Their review is entirely circular if it depends on LAUSD calculations that we cannot review and assess. Figure 1 is inadequate to replace calculations and assumptions on which those calculations are based.
- 3) URS does provide this requested information - that "*(T)he calculations included both access points and tablet devices.*". But without the calculations, no verification can be done.
- 4) URS contends "*Foster and Trottier (February 15, 2013) summarized the state of research concerning EMFs and health effects best.*" This is a prejudicial and misleading blog article that is not peer-reviewed, but simply an opinion piece. It has largely been dismissed by the research community. The authors often produce articles that favor industry positions rather than more aligned with independent scientific views of the evidence for health risks. Foster's characterization of a 2B Possible Human Carcinogen (below) is disparagingly cynical, and an effort to trivialize what has already been identified as a serious possible health exposure by IARC, especially for school children.

"As discussed earlier in this response, Category 2B Possible Human Carcinogen does not mean that the substance has been verified to be a carcinogen. As Dr. Foster stated, 'Saying that something is a 'possible carcinogen' is a bit like saying that someone is a 'possible shoplifter' because he was in the store when the watch was stolen.'" (Trottier, 2012)".

- 5) URS makes light of the recent WHO IARC classification of radiofrequency radiation as a Group 2B "Possible Human Carcinogen" and omits key IARC evidence used to establish the Group 2B classification. Under the rules of IARC, to be considered carcinogen, the effects have to demonstrated to be not only on humans, but also on animals. The effects were shown to exist on humans, particularly on children. This evidence was stronger on humans than animals, where the evidence was weaker but not absent. Thus, IARC rules

provide for a Group 2B Possible Human Carcinogen classification. The LAUSD should take this classification seriously based on the IARC designation.

6) The URS response misdirects attention to the BioInitiative Reports, then says it didn't read them and shouldn't have been expected to read them; and relies on blog opinions of detractors of the BioInitiative Reports quoting industry critics in old articles. The BioInitiative 2007 preceded the IARC designation by about four years, and the IARC designation of radiofrequency as a Group 2B carcinogen in 2011 certainly puts much of this early criticism to rest. We agree the focus of our request to URS is for information about RF levels from Common Core Technology Program wireless systems.

7) URS can find the relevant section for determining 100% duty cycle requirements under FCC OET 65 on page 10. Duty cycle is defined in FCC OET 65 on page 2. FCC OET 65 specifies:

"The FCC Bulletin OET 65 guidelines specify that continuous exposure (defined by the FCC OET 65 as 100% duty cycle) is required in calculations where it is not possible to control exposures to the general public.

"It is important to note that for general population/uncontrolled exposures it is often not possible to control exposures to the extent that averaging times can be applied. In those situations, it is often necessary to assume continuous exposure." (emphasis added)

FCC Bulletin OET 65, p, 10

"Duty factor. The ratio of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmissions. A duty factor of 1.0 corresponds to continuous operation." (emphasis added)

FCC Bulletin OET 65, p, 2

Any calculations done for RFR on WLAN technologies must use a 100% duty cycle in accord with FCC Bulletin OET 65 formulas 6 and 10. This is mandatory according to FCC rules 'where the public cannot be excluded'. Obviously the public cannot be excluded from classrooms where this technology is proposed.

8) URS attempts to substitute the FCC OET 65 rule for estimating RF by calling wireless tablets 'mobile devices' which could circumvent the 100% duty cycle requirement for calculations.

"Further, the FCC states, "Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement." (page 40) Therefore, this classification would apply to wireless tablet devices." (emphasis added)

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Does URS mean by this that children may not use their hands to touch and type? Or, perhaps URS means the LAUSD will provide them with 22 cm styluses for typing? Children in classroom environments cannot be expected to maintain the 20 centimeter distancing rule (tablet distance to body), nor can teachers be expected to monitor for compliance in any way that allows URS to invoke a different rule from FCC OET 65 in this manner.

8) The radiofrequencies addressed by the LAUSD Resolution prohibiting cell tower radiation on campuses are very similar (in frequency and in health effects) to the frequencies to be used in the Common Core Technology Program. WLAN frequencies are very similar to those used for cell and PCS service as commonly installed in cell towers across the Los Angeles basin. School classroom exposure levels from cell towers will generally be lower than for tablets and wireless access points. URS can provide calculations for RF power density, along with the supporting technical inputs (antenna make and model; antenna radiation pattern, frequencies, etc) to demonstrate they are not similar frequencies to cell towers. Otherwise, there is no evidence to support that the LAUSD Resolution is not violated.

The URS Report should be revised and resubmitted to the LAUSD to rectify factual errors and to clarify information as requested in our original submittal. I look forward to reviewing your revised report.

Respectfully submitted,

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